

SEQUENCE LISTING ~~AP20 Rec'd PCT/PTO~~ 21 JUN 2006

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<150> PCT/JP2005/013103
 <151> 2005-07-08

<150> JP 2004-203637
 <151> 2004-07-09

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gagtacaagt	gcaaggtctc	caacaaagcc	ctcccagccc	ccatcgagaa	aaccatctcc	1080
aaagccaaag	ggcagccccg	agaaccacag	gtgtacaccc	tgcccccatc	ccgggatgag	1140
ctgaccaaga	accaggtcag	cctgacctgc	ctgggtcaaag	gcttctatcc	cagcgacatc	1200
gccgtggagt	gggagagcaa	tgggcagccg	gagaacaact	acaagaccac	gcctcccgtg	1260
ctggactccg	acggctcctt	cttcctctac	agcaagctca	ccgtggacaa	gagcaggtgg	1320
cagcagggga	acgtcttctc	atgctccgtg	atgcatgagg	ctctgcacaa	ccactacacg	1380
cagaagagcc	tctccctgtc	tccgggtaaa	tga			1413

<210> 19
 <211> 357
 <212> DNA
 <213> Mus musculus

<400> 19						
gaggttcagc	tccagcagtc	tgggactgtg	ctggcaaggc	ctggggcttc	agtgaagatg	60
tcttgcaagg	cttctggcta	cacctttacc	ggctactgga	tgcactgggt	aaaacagagg	120
cctggacagg	gtctggaatg	gattggcgct	atttatcctg	gaaatagtga	tactaactac	180
aaccagaagt	tcaagggcaa	ggccaaactg	actgcagtca	catctgccag	cactgcctac	240
atggagctca	gcagcctgac	aaatgaggac	gctgcgggtct	atcactgtac	aagatcgggg	300
gacctaactg	gggggcttgc	ttactggggc	caagggactc	tggtcactgt	ctctgca	357

<210> 20
 <211> 372
 <212> DNA
 <213> Mus musculus

<400> 20						
caggtccagc	tgcagcagcc	tggggctgaa	ctggtgaagc	ctggggcttc	agtgaaactg	60
tcttgcaagg	cttctggata	caccttcact	agctactgga	tgcattgggt	gaagcagagg	120
cctggacaag	gccttgagtg	gatcgagag	attgatcctt	ctgatagtta	tacttactac	180
aatcaaaaagt	tcaggggcaa	ggccacattg	actgtagaca	aatcctccaa	cacagcctac	240
atgcaactca	gcagcctgac	atctgaggac	tctgcgggtct	attactgttc	aagatcaaat	300
ctgggtgatg	gtcactaccg	gtttcctgcg	tttccttact	ggggccaagg	gactctggtc	360
actgtctctg	ca					372

<210> 21
 <211> 372
 <212> DNA
 <213> Mus musculus

<400> 21						
caggtccaac	tgcagcagcc	tggggctgaa	ctggtgaaac	ctggggcttc	agtgaagctg	60
tcttgcaagg	cttctggcta	caccttcacc	agctactgga	tgcactgggt	gaaacagagg	120
cctggacaag	gccttgaatg	gattgggtaca	attgaccctt	ctgatagtga	aactcactac	180
aatctacagt	tcaaggacac	ggccacattg	actgtagaca	aatcctccag	cacagcctac	240
atgcagctca	gcagcctgac	atctgaggac	tctgcgggtct	attattgtat	aagaggcgcc	300
ttctatagtt	cctatagtta	ctgggcctgg	tttgcttact	ggggccaagg	gactctggtc	360
actgtctctg	ca					372

<210> 22
 <211> 463
 <212> PRT
 <213> Mus musculus

<400> 22

Met	Asn	Phe	Gly	Leu	Thr	Leu	Ile	Phe	Leu	Val	Leu	Thr	Leu	Lys	Gly
1			5					10						15	
Val	Gln	Cys	Glu	Val	Gln	Leu	Val	Glu	Ser	Gly	Gly	Gly	Leu	Val	Lys
			20					25					30		
Pro	Gly	Gly	Ser	Leu	Lys	Leu	Ser	Cys	Ala	Ala	Ser	Gly	Phe	Thr	Phe
		35					40					45			
Ser	Arg	Tyr	Ala	Met	Ser	Trp	Val	Arg	Gln	Ile	Pro	Glu	Lys	Ile	Leu
	50					55					60				
Glu	Trp	Val	Ala	Ala	Ile	Asp	Ser	Ser	Gly	Gly	Asp	Thr	Tyr	Tyr	Leu
65					70					75					80
Asp	Thr	Val	Lys	Asp	Arg	Phe	Thr	Ile	Ser	Arg	Asp	Asn	Ala	Asn	Asn
			85						90					95	
Thr	Leu	His	Leu	Gln	Met	Arg	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Leu
			100					105					110		
Tyr	Tyr	Cys	Val	Arg	Gln	Gly	Gly	Ala	Tyr	Trp	Gly	Gln	Gly	Thr	Leu
		115					120					125			
Val	Thr	Val	Ser	Ala	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu
							135					140			
Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys
145					150					155					160
Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	Val	Thr	Val	Ser	Trp	Asn	Ser
			165						170					175	
Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser
			180					185					190		
Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	Val	Thr	Val	Pro	Ser	Ser	Ser
		195					200					205			
Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn
	210					215					220				
Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	Lys	Ser	Cys	Asp	Lys	Thr	His
225					230					235					240
Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	Leu	Leu	Gly	Gly	Pro	Ser	Val
				245					250					255	
Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr
			260					265					270		
Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu
		275					280					285			
Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys
	290					295				300					
Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	Ser	Thr	Tyr	Arg	Val	Val	Ser
305					310					315					320
Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys
				325					330					335	
Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	Ala	Pro	Ile	Glu	Lys	Thr	Ile
			340					345					350		
Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	Pro	Gln	Val	Tyr	Thr	Leu	Pro
		355					360					365			
Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	Gln	Val	Ser	Leu	Thr	Cys	Leu
		370				375					380				
Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	Ala	Val	Glu	Trp	Glu	Ser	Asn
385					390					395					400
Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	Thr	Pro	Pro	Val	Leu	Asp	Ser
				405					410					415	
Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys	Leu	Thr	Val	Asp	Lys	Ser	Arg
			420					425					430		
Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys	Ser	Val	Met	His	Glu	Ala	Leu
		435					440					445			
His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu	Ser	Leu	Ser	Pro	Gly	Lys	

450

455

460

<210> 23
 <211> 114
 <212> PRT
 <213> Mus musculus

<400> 23
 Glu Val His Leu Val Glu Ser Gly Gly Gly Leu Val Lys Pro Gly Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Asn Tyr
 20 25 30
 Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
 35 40 45
 Ala Ala Ile Asn Asn Asn Gly Asp Asp Thr Tyr Tyr Leu Asp Thr Val
 50 55 60
 Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Thr Ala Leu Tyr Tyr Cys
 85 90 95
 Val Arg Gln Gly Gly Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val
 100 105 110
 Ser Ala

<210> 24
 <211> 470
 <212> PRT
 <213> Mus musculus

<400> 24
 Met Gly Trp Asn Trp Ile Phe Ile Leu Ile Leu Ser Val Thr Thr Gly
 1 5 10 15
 Val His Ser Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys
 20 25 30
 Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Phe
 35 40 45
 Thr Gly Tyr Tyr Met His Trp Val Lys Gln Ser Pro Glu Lys Ser Leu
 50 55 60
 Glu Trp Ile Gly Glu Ile Asn Pro Ser Thr Gly Gly Thr Thr Tyr Asn
 65 70 75 80
 Gln Lys Phe Lys Ala Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser
 85 90 95
 Thr Ala Tyr Met Gln Leu Lys Ser Leu Thr Ser Glu Asp Ser Ala Val
 100 105 110
 Tyr Tyr Cys Ala Arg Arg Gly Gly Leu Thr Gly Thr Ser Phe Phe Ala
 115 120 125
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Ala Ser Thr Lys
 130 135 140
 Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly
 145 150 155 160
 Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro
 165 170 175
 Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr
 180 185 190
 Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val
 195 200 205

Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn
210						215					220				
Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro
225					230					235					240
Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu
				245					250					255	
Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp
			260					265					270		
Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp
		275					280					285			
Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly
	290					295					300				
Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn
305					310					315					320
Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp
				325					330					335	
Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro
			340					345					350		
Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu
		355					360					365			
Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn
	370					375					380				
Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile
385					390					395					400
Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr
				405				410						415	
Thr	Pro	Pro	Val	Leu	Asp	Ser	Asp	Gly	Ser	Phe	Phe	Leu	Tyr	Ser	Lys
			420					425					430		
Leu	Thr	Val	Asp	Lys	Ser	Arg	Trp	Gln	Gln	Gly	Asn	Val	Phe	Ser	Cys
		435					440					445			
Ser	Val	Met	His	Glu	Ala	Leu	His	Asn	His	Tyr	Thr	Gln	Lys	Ser	Leu
	450					455					460				
Ser	Leu	Ser	Pro	Gly	Lys										
465					470										

<210> 25
 <211> 118
 <212> PRT
 <213> Mus musculus

<400> 25
 Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Met Gly Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Tyr Asp Ala Lys Tyr Tyr Asn Ser Asp
 50 55 60
 Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Asn Gln Val
 65 70 75 80
 Phe Leu Lys Ile Ser Ser Val Asp Thr Ser Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Gln Met Gly Leu Ala Trp Phe Ala Tyr Trp Gly Gln Gly Thr
 100 105 110
 Leu Val Thr Val Ser Ala
 115

<210> 26
 <211> 118
 <212> PRT
 <213> Mus musculus

<400> 26
 Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Ile Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp Asn Asp Asp Lys Tyr Tyr Asn Ser Ala
 50 55 60
 Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Thr Ser Asn Asn Gln Val
 65 70 75 80
 Phe Leu Lys Ile Ser Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Gln Ile Gly Tyr Phe Tyr Phe Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
 Thr Leu Thr Val Ser Ser
 115

<210> 27
 <211> 471
 <212> PRT
 <213> Mus musculus

<400> 27
 Met Asn Phe Gly Leu Thr Leu Ile Phe Leu Val Leu Thr Leu Lys Gly
 1 5 10 15
 Val Gln Cys Glu Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Lys
 20 25 30
 Pro Gly Gly Thr Leu Lys Leu Ser Cys Ala Ala Ser Gly Ser Thr Phe
 35 40 45
 Ser Asn Tyr Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu
 50 55 60
 Glu Trp Val Ala Ala Ile Asp Ser Asn Gly Gly Thr Thr Tyr Tyr Pro
 65 70 75 80
 Asp Thr Met Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn
 85 90 95
 Thr Leu Tyr Leu Gln Met Asn Ser Leu Arg Ser Glu Asp Thr Ala Phe
 100 105 110
 Tyr His Cys Thr Arg His Asn Gly Gly Tyr Glu Asn Tyr Gly Trp Phe
 115 120 125
 Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Ala Ser Thr
 130 135 140
 Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser
 145 150 155 160
 Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu
 165 170 175
 Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His
 180 185 190
 Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser
 195 200 205
 Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys

210		215		220
Asn Val Asn His Lys Pro	Ser Asn Thr Lys Val	Asp Lys Lys Val Glu		
225	230	235	240	
Pro Lys Ser Cys Asp Lys	Thr His Thr Cys Pro	Pro Cys Pro Ala Pro		
	245	250	255	
Glu Leu Leu Gly Gly Pro	Ser Val Phe Leu Phe	Pro Pro Lys Pro Lys		
	260	265	270	
Asp Thr Leu Met Ile Ser	Arg Thr Pro Glu Val	Thr Cys Val Val Val		
	275	280	285	
Asp Val Ser His Glu Asp	Pro Glu Val Lys Phe	Asn Trp Tyr Val Asp		
	290	295	300	
Gly Val Glu Val His Asn	Ala Lys Thr Lys Pro	Arg Glu Glu Gln Tyr		
305	310	315	320	
Asn Ser Thr Tyr Arg Val	Val Ser Val Leu Thr	Val Leu His Gln Asp		
	325	330	335	
Trp Leu Asn Gly Lys Glu	Tyr Lys Cys Lys Val	Ser Asn Lys Ala Leu		
	340	345	350	
Pro Ala Pro Ile Glu Lys	Thr Ile Ser Lys Ala	Lys Gly Gln Pro Arg		
	355	360	365	
Glu Pro Gln Val Tyr Thr	Leu Pro Pro Ser Arg	Asp Glu Leu Thr Lys		
	370	375	380	
Asn Gln Val Ser Leu Thr	Cys Leu Val Lys Gly	Phe Tyr Pro Ser Asp		
385	390	395	400	
Ile Ala Val Glu Trp Glu	Ser Asn Gly Gln Pro	Glu Asn Asn Tyr Lys		
	405	410	415	
Thr Thr Pro Pro Val Leu	Asp Ser Asp Gly Ser	Phe Phe Leu Tyr Ser		
	420	425	430	
Lys Leu Thr Val Asp Lys	Ser Arg Trp Gln Gln	Gly Asn Val Phe Ser		
	435	440	445	
Cys Ser Val Met His Glu	Ala Leu His Asn His	Tyr Thr Gln Lys Ser		
	450	455	460	
Leu Ser Leu Ser Pro Gly	Lys			
465	470			

<210> 28
 <211> 122
 <212> PRT
 <213> Mus musculus

<400> 28
Glu Val Gln Leu Val Glu Ser Gly Gly Asp Leu Val Lys Pro Gly Gly
1 5 10 15
Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
20 25 30
Ala Met Ser Trp Val Arg Gln Thr Pro Glu Lys Arg Leu Glu Trp Val
35 40 45
Ala Ala Ile Asn Ser Asn Gly Gly Thr Thr Tyr Tyr Pro Asp Thr Met
50 55 60
Lys Asp Arg Phe Thr Ile Ser Arg Asp Asn Ala Lys Asn Thr Leu Tyr
65 70 75 80
Leu Gln Met Ser Ser Leu Arg Ser Glu Asp Ser Ala Leu Tyr Tyr Cys
85 90 95
Thr Arg His Asn Gly Gly Tyr Glu Asn Tyr Gly Trp Phe Ala Tyr Trp
100 105 110
Gly Gln Gly Thr Leu Val Thr Val Ser Ala
115 120

<210> 29
 <211> 470
 <212> PRT
 <213> Mus musculus

<400> 29

Met	Glu	Ser	Asn	Trp	Ile	Leu	Pro	Phe	Ile	Leu	Ser	Val	Ala	Ser	Gly	
1				5					10					15		
Val	Tyr	Ser	Glu	Val	Gln	Leu	Gln	Gln	Ser	Gly	Thr	Val	Leu	Ala	Arg	
			20					25					30			
Pro	Gly	Ala	Ser	Val	Lys	Met	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	
		35					40					45				
Thr	Gly	Tyr	Trp	Met	Arg	Trp	Val	Lys	Gln	Arg	Pro	Gly	Gln	Gly	Leu	
	50					55					60					
Glu	Trp	Ile	Gly	Ala	Ile	Tyr	Pro	Gly	Asn	Ser	Asp	Thr	Thr	Tyr	Asn	
65					70				75						80	
Gln	Lys	Phe	Lys	Gly	Lys	Ala	Lys	Leu	Thr	Ala	Val	Thr	Ser	Val	Ser	
			85						90					95		
Thr	Ala	Tyr	Met	Glu	Leu	Ser	Ser	Leu	Thr	Asn	Glu	Asp	Ser	Ala	Val	
			100					105					110			
Tyr	Tyr	Cys	Ser	Arg	Ser	Gly	Asp	Leu	Thr	Gly	Gly	Phe	Ala	Tyr	Trp	
		115					120					125				
Gly	Gln	Gly	Thr	Leu	Val	Thr	Val	Ser	Thr	Ala	Lys	Ala	Ser	Thr	Lys	
	130					135					140					
Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser	Lys	Ser	Thr	Ser	Gly	
145					150				155						160	
Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp	Tyr	Phe	Pro	Glu	Pro	
			165						170					175		
Val	Thr	Val	Ser	Trp	Asn	Ser	Gly	Ala	Leu	Thr	Ser	Gly	Val	His	Thr	
			180					185					190			
Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr	Ser	Leu	Ser	Ser	Val	
		195					200					205				
Val	Thr	Val	Pro	Ser	Ser	Ser	Leu	Gly	Thr	Gln	Thr	Tyr	Ile	Cys	Asn	
	210					215					220					
Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp	Lys	Lys	Val	Glu	Pro	
225					230					235				240		
Lys	Ser	Cys	Asp	Lys	Thr	His	Thr	Cys	Pro	Pro	Cys	Pro	Ala	Pro	Glu	
			245						250					255		
Leu	Leu	Gly	Gly	Pro	Ser	Val	Phe	Leu	Phe	Pro	Pro	Lys	Pro	Lys	Asp	
		260						265					270			
Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr	Cys	Val	Val	Val	Asp	
		275					280					285				
Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn	Trp	Tyr	Val	Asp	Gly	
	290					295					300					
Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg	Glu	Glu	Gln	Tyr	Asn	
305					310					315					320	
Ser	Thr	Tyr	Arg	Val	Val	Ser	Val	Leu	Thr	Val	Leu	His	Gln	Asp	Trp	
			325						330					335		
Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser	Asn	Lys	Ala	Leu	Pro	
		340						345					350			
Ala	Pro	Ile	Glu	Lys	Thr	Ile	Ser	Lys	Ala	Lys	Gly	Gln	Pro	Arg	Glu	
		355					360					365				
Pro	Gln	Val	Tyr	Thr	Leu	Pro	Pro	Ser	Arg	Asp	Glu	Leu	Thr	Lys	Asn	
	370					375					380					
Gln	Val	Ser	Leu	Thr	Cys	Leu	Val	Lys	Gly	Phe	Tyr	Pro	Ser	Asp	Ile	
385					390					395					400	
Ala	Val	Glu	Trp	Glu	Ser	Asn	Gly	Gln	Pro	Glu	Asn	Asn	Tyr	Lys	Thr	

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          405          410          415
Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
          420          425          430
Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
          435          440          445
Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
          450          455          460
Ser Leu Ser Pro Gly Lys
465          470

```

```

<210> 30
<211> 119
<212> PRT
<213> Mus musculus

```

```

<400> 30
Glu Val Gln Leu Gln Gln Ser Gly Thr Val Leu Ala Arg Pro Gly Ala
1          5          10          15
Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Gly Tyr
          20          25          30
Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
          35          40          45
Gly Ala Ile Tyr Pro Gly Asn Ser Asp Thr Asn Tyr Asn Gln Lys Phe
          50          55          60
Lys Gly Lys Ala Lys Leu Thr Ala Val Thr Ser Ala Ser Thr Ala Tyr
65          70          75          80
Met Glu Leu Ser Ser Leu Thr Asn Glu Asp Ala Ala Val Tyr His Cys
          85          90          95
Thr Arg Ser Gly Asp Leu Thr Gly Gly Leu Ala Tyr Trp Gly Gln Gly
          100          105          110
Thr Leu Val Thr Val Ser Ala
          115

```

```

<210> 31
<211> 124
<212> PRT
<213> Mus musculus

```

```

<400> 31
Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
1          5          10          15
Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
          20          25          30
Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
          35          40          45
Gly Glu Ile Asp Pro Ser Asp Ser Tyr Thr Tyr Tyr Asn Gln Lys Phe
          50          55          60
Arg Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Tyr
65          70          75          80
Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
          85          90          95
Ser Arg Ser Asn Leu Gly Asp Gly His Tyr Arg Phe Pro Ala Phe Pro
          100          105          110
Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
          115          120

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```

<210> 32

```

<211> 124
 <212> PRT
 <213> Mus musculus

<400> 32
 Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr
 20 25 30
 Trp Met His Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
 35 40 45
 Gly Thr Ile Asp Pro Ser Asp Ser Glu Thr His Tyr Asn Leu Gln Phe
 50 55 60
 Lys Asp Thr Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80
 Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95
 Ile Arg Gly Ala Phe Tyr Ser Ser Tyr Ser Tyr Trp Ala Trp Phe Ala
 100 105 110
 Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
 115 120

<210> 33
 <211> 717
 <212> DNA
 <213> Mus musculus

<400> 33
 atgagtcctg cccagttcct gtttctgtta gtgctctgga ttcgggaaac caacgggtgat 60
 gttgtgatga cccagactcc actcactttg tcggttacca ttggacaacc agcctccatc 120
 tcttgcaagt caagtcagag cctcttagat agtgatggaa agacatattt gaattgggtg 180
 ttacagaggc caggccagtc tccaaagcgc ctaatctatc tgggtgtctaa attggactct 240
 ggagcccctg acaggttcac tggcagtggg tcagggacag atttcacact gaaaatcagt 300
 agagtggagg ctgaggattt gggaatttat tattgctggc aaggtacaca ttttccgctc 360
 acgttcgggtg ctgggaccaa gctggagctg aaacgtacgg tggctgcacc atctgtcttc 420
 atcttcccgc catctgatga gcagttgaaa tctggaactg cctctgttgt gtgcctgctg 480
 aataacttct atcccagaga ggccaaagta cagtggaggg tggataacgc cctccaatcg 540
 ggtaactccc aggagagtgt cacagagcag gacagcaagg acagcaccta cagcctcagc 600
 agcacctga cgctgagcaa agcagactac gagaaacaca aagtctacgc ctgcgaagtc 660
 acccatcagg gcctgagctc gcccgtcaca aagagcttca acaggggaga gtgttga 717

<210> 34
 <211> 336
 <212> DNA
 <213> Mus musculus

<400> 34
 gatgtttgta tgacccagtc tccactcact ttgtcgatta ccattggaca accagcctcc 60
 atctcttgca agtcaagtca gagcctctta gatagtgatg gaaagacata tttgaattgg 120
 ttgttacaga ggccaggcca gtctccaaag cgcctaattc atctgggtgc taaactggac 180
 tctggagtcc ctgacagggt cactggcagt ggatcaggga cagatttctc actgaaaatc 240
 agcagagtgg aggctgagga tttgggaatt tattattgct ggcaaggtag acattttccg 300
 ctcacgttcg gtgctgggac caagctggag ctgaaa 336

<210> 35
 <211> 717
 <212> DNA

<213> Mus musculus

<400> 35

atgagtcctg	tccagttcct	gtttctgtta	atgctctgga	ttcaggaaac	caacggtgat	60
gttgatga	cccagactcc	actgtctttg	tcggttacca	ttggacaacc	agcctctatc	120
tcttgcaagt	caagtccagag	cctcttatat	agtaattgaa	agacataatt	gaattgggta	180
caacagaggc	ctggccaggc	tccaaagcac	ctaattgtatc	aggtgtccaa	actggaccct	240
ggcatccctg	acaggttcag	tggcagtggg	tcagaaacag	attttacact	taaaatcagc	300
agagtggagg	ctgaagattt	gggagtttat	tactgcttgc	aaagtacata	ttatccgctc	360
acgttcgggtg	ctgggaccaa	gctggagctg	aaacgtacgg	tggctgcacc	atctgtcttc	420
atcttcccg	catctgatga	gcagttgaaa	tctggaactg	cctctgttgt	gtgcctgctg	480
aataacttct	atcccagaga	ggccaaagta	cagtggagg	tggataacgc	cctccaatcg	540
ggtaactccc	aggagagtgt	cacagagcag	gacagcaagg	acagcaccta	cagcctcagc	600
agcaccctga	cgctgagcaa	agcagactac	gagaaacaca	aagtctacgc	ctgcgaagtc	660
acccatcagg	gcctgagctc	gcccgtcaca	aagagcttca	acaggggaga	gtgttga	717

<210> 36

<211> 324

<212> DNA

<213> Mus musculus

<400> 36

gacatcaaga	tgaccagtc	tccatcttcc	atgtatgcat	ctctaggaga	gagagtcact	60
atcacttgca	aggcgagtc	ggacattaat	aactatttaa	gctgggtcca	gcagaaacca	120
gggaaatctc	ctaagaccct	gatctatcgt	gcaaacagat	tggtagatgg	ggtcccatca	180
aggttcagtg	gcagtggatc	tgggcaagat	tattctctca	ccatcagcag	cctggagtat	240
gaagatatgg	gaattaatta	ttgtctacag	tgtgatgagt	ttcctccgtg	gacgttcggg	300
ggaggcacca	agctggaaat	caaa				324

<210> 37

<211> 336

<212> DNA

<213> Mus musculus

<400> 37

gatgttgatga	tgacccaaac	tccactctcc	ctgcctgtca	gtcttgaggaga	tcaagcctcc	60
atctcttgca	gatctagtca	gagccttgta	cacagtaatg	gaaacaccta	tttacattgg	120
tacctgcaga	agccaggcca	gtctccaaag	ctcctgatct	acaaagtttc	caaccgattt	180
tctggggctcc	cagacagggt	cagtggcagt	ggatcaggga	cagatttcac	actcaagatc	240
agcagagtgg	aggctgagga	tctgggagtt	tatttctgct	ctcaaagtac	acatgttccg	300
tggacgttcg	gtggaggcac	caagctggaa	atcaaa			336

<210> 38

<211> 705

<212> DNA

<213> Mus musculus

<400> 38

atgagaccct	ccattcagtt	cctggggctc	ttgttggttct	ggcttcatgg	tggttcagtgt	60
gacatccaga	tgacacagtc	tccatcctca	ctgtctgcat	ctctgggagg	caaagtcacc	120
atcacttgca	aggcaagtca	ggacattaac	aagaatatag	tttggtacca	acacaagcct	180
ggaaaaggctc	ctaggctgct	catatggtag	acatctacat	tacagccagg	catcccatca	240
aggttcagtg	gaagtgggtc	tgggagagat	tattccttca	gcatcagcaa	cctggagcct	300
gaagatatgg	caacttatta	ctgtctacag	tatgataatc	ttccacggac	gttcgggtgga	360
ggcaccaaac	tggaaatcaa	acgtacgggtg	gctgcacat	ctgtcttcat	cttcccgcga	420
tctgatgagc	agttgaaatc	tggaaactgcc	tctgttggtg	gcctgctgaa	taacttctat	480
cccagagagg	ccaaagtaca	gtggaagggtg	gataacgccc	tccaatcggg	taactcccag	540

gagagtgtca	cagagcagga	cagcaaggac	agcacctaca	gcctcagcag	caccctgacg	600
ctgagcaaag	cagactacga	gaaacacaaa	gtctacgcct	gcgaagtcac	ccatcagggc	660
ctgagctcgc	ccgtcacaaa	gagcttcaac	aggggagagt	gttga		705

<210> 39
 <211> 321
 <212> DNA
 <213> Mus musculus

<400> 39						
gacatccaga	tgacacagtc	tccatcctca	ctgtctgcat	ctctgggagg	caaagtcacc	60
atcacttgca	aggcaagtca	ggacattaac	aagaatataa	tttggtagca	acacaagcct	120
ggaaaaggct	ctaggctgct	catatggtag	acatctacat	tacagccagg	catcccatca	180
aggttcagtg	gaagtgggtc	tgggagagat	tattccttca	gcatcagcaa	cctggagcct	240
gaagatattg	caacttatta	ctgtctacag	tatgataatc	ttccacggac	gttcggtgga	300
ggcaccaagc	tggaaatcaa	a				321

<210> 40
 <211> 720
 <212> DNA
 <213> Mus musculus

<400> 40						
atgaggttct	ctgctcagct	tctggggctg	cttgtgctct	ggatccctgg	atccactgca	60
gatattgtga	tgacgcaggc	tgcatctctc	aatccagtca	ctcttggaac	atcaacttcc	120
atctcctgca	ggctctagtaa	gagtctccta	catagtaatg	gcatcactta	tttgtattgg	180
tatctgcaga	agccaggcca	gtctcctcag	ctcctgattt	atcagatgtc	caaccttgcc	240
tcaggagtcc	cagacagggt	cagtagcagt	gggtcaggaa	ctgatttcac	actgagaatc	300
agcagagtgg	aggetgagga	tgtgggtgtt	tattactgtg	ctcaaaatct	agaacttccg	360
tatacgttcg	gatcggggac	caagctggaa	ataaaacgta	cgggtggctgc	accatctgtc	420
ttcatcttcc	cgccatctga	tgagcagttg	aaatctggaa	ctgcctctgt	tgtgtgcctg	480
ctgaataact	tctatcccag	agaggccaaa	gtacagtggg	aggtggataa	cgccctccaa	540
tcgggtaact	cccaggagag	tgtcacagag	caggacagca	aggacagcac	ctacagcctc	600
agcagacccc	tgacgctgag	caaagcagac	tacgagaaac	acaaagtcta	cgctgcgaa	660
gtcacccatc	agggcctgag	ctcgcccgtc	acaaagagct	tcaacagggg	agagtgttga	720

<210> 41
 <211> 336
 <212> DNA
 <213> Mus musculus

<400> 41						
gatattgtga	tgacgcaggc	tgcatctctc	aatccagtca	ctcttggaac	atcagcttcc	60
atctcctgca	ggctctagtaa	gagtctccta	catagtaatg	gcatcactta	tttgtattgg	120
tttctgcaga	agccaggcca	gtctcctcag	ctcctgattt	atcagatgtc	caaccttgcc	180
tcaggagtcc	cagacagggt	cagtagcagt	gggtcaggaa	ctgatttcac	actgagaatc	240
agcagagtgg	aggetgagga	tgtgggtgtt	tattactgtg	ctcaaaatct	agaacttccg	300
tatacgttcg	gatcggggac	caagctggaa	ataaaa			336

<210> 42
 <211> 321
 <212> DNA
 <213> Mus musculus

<400> 42						
gatattgtgc	taactcagtc	tccagccacc	ctgtctgtga	ctccaggaga	cagagtcagt	60
ctttcctgca	gggccagcca	tagtattagc	aatttcttac	actggtatcc	acaaaaatca	120

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catgagtctc caaggcttct catcaagtat gcttcccagt ccatctctgg gatccccctcc 180
aggttcagtg gcaatggatc agggacagat ttactctca gtatcaacag tgtggagact 240
gaagattttg gaatgtattt ctgtcaacag agtaacatct ggtcgcgtcac gttcggtgct 300
gggaccaagc tggagctgaa a 321

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<210> 43
<211> 333
<212> DNA
<213> Mus musculus

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<400> 43
gacattgtgc tcaccaatc tccaacttct ttggctgtgt ctctagggca gagtgtcacc 60
atctcctgca gagccagtga aagtgttgaa tattatggca ctagtttaat gcagtgggtac 120
caacagaaac caggacagcc acccaaaactc ctcatctatg gtgcatccaa cgtagaatct 180
ggggtccttg ccaggtttag tggcagtggt tctgggacag acttcagcct caacatccat 240
cctgtggagg aggatgatat tgcaatgtat ttctgtcagc aaagtaggaa gggtccgtat 300
acgttcggat cggggaccaa gctggaaata aaa 333

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<210> 44
<211> 238
<212> PRT
<213> Mus musculus

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<400> 44
Met Ser Pro Ala Gln Phe Leu Phe Leu Leu Val Leu Trp Ile Arg Glu
1 5 10 15
Thr Asn Gly Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val
20 25 30
Thr Ile Gly Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu
35 40 45
Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro
50 55 60
Gly Gln Ser Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser
65 70 75 80
Gly Ala Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr
85 90 95
Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Leu Gly Ile Tyr Tyr Cys
100 105 110
Trp Gln Gly Thr His Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu
115 120 125
Glu Leu Lys Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro
130 135 140
Ser Asp Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu
145 150 155 160
Asn Asn Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn
165 170 175
Ala Leu Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser
180 185 190
Lys Asp Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala
195 200 205
Asp Tyr Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly
210 215 220
Leu Ser Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
225 230 235

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<210> 45
<211> 112

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<212> PRT
 <213> Mus musculus

<400> 45

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Thr	Leu	Ser	Ile	Thr	Ile	Gly
1			5						10					15	
Gln	Pro	Ala	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu	Leu	Asp	Ser
			20					25					30		
Asp	Gly	Lys	Thr	Tyr	Leu	Asn	Trp	Leu	Leu	Gln	Arg	Pro	Gly	Gln	Ser
		35				40					45				
Pro	Lys	Arg	Leu	Ile	Tyr	Leu	Val	Ser	Lys	Leu	Asp	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Thr	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Ser	Leu	Lys	Ile
65					70					75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Ile	Tyr	Tyr	Cys	Trp	Gln	Gly
				85					90					95	
Thr	His	Phe	Pro	Leu	Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu	Glu	Leu	Lys
			100					105						110	

<210> 46
 <211> 238
 <212> PRT
 <213> Mus musculus

<400> 46

Met	Ser	Pro	Val	Gln	Phe	Leu	Phe	Leu	Leu	Met	Leu	Trp	Ile	Gln	Glu
1			5						10					15	
Thr	Asn	Gly	Asp	Val	Val	Met	Thr	Gln	Thr	Pro	Leu	Ser	Leu	Ser	Val
			20					25					30		
Thr	Ile	Gly	Gln	Pro	Ala	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Gln	Ser	Leu
		35					40					45			
Leu	Tyr	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	Asn	Trp	Leu	Gln	Gln	Arg	Pro
	50					55				60					
Gly	Gln	Ala	Pro	Lys	His	Leu	Met	Tyr	Gln	Val	Ser	Lys	Leu	Asp	Pro
65					70					75				80	
Gly	Ile	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Glu	Thr	Asp	Phe	Thr
				85					90					95	
Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Tyr	Cys
			100					105					110		
Leu	Gln	Ser	Thr	Tyr	Tyr	Pro	Leu	Thr	Phe	Gly	Ala	Gly	Thr	Lys	Leu
	115					120						125			
Glu	Leu	Lys	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe	Pro	Pro
	130					135					140				
Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	Cys	Leu	Leu
145					150					155				160	
Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln	Trp	Lys	Val	Asp	Asn
				165					170					175	
Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln	Asp	Ser
			180					185						190	
Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu	Thr	Leu	Ser	Lys	Ala
	195					200						205			
Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His	Gln	Gly
210						215					220				
Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser	Phe	Asn	Arg	Gly	Glu	Cys		
225					230					235					

<210> 47

<211> 108
 <212> PRT
 <213> Mus musculus

<400> 47

Asp	Ile	Lys	Met	Thr	Gln	Ser	Pro	Ser	Ser	Met	Tyr	Ala	Ser	Leu	Gly
1				5					10					15	
Glu	Arg	Val	Thr	Ile	Thr	Cys	Lys	Ala	Ser	Gln	Asp	Ile	Asn	Asn	Tyr
			20					25					30		
Leu	Ser	Trp	Phe	Gln	Gln	Lys	Pro	Gly	Lys	Ser	Pro	Lys	Thr	Leu	Ile
		35					40					45			
Tyr	Arg	Ala	Asn	Arg	Leu	Val	Asp	Gly	Val	Pro	Ser	Arg	Phe	Ser	Gly
	50					55					60				
Ser	Gly	Ser	Gly	Gln	Asp	Tyr	Ser	Leu	Thr	Ile	Ser	Ser	Leu	Glu	Tyr
65					70					75				80	
Glu	Asp	Met	Gly	Ile	Asn	Tyr	Cys	Leu	Gln	Cys	Asp	Glu	Phe	Pro	Pro
				85					90					95	
Trp	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys				
			100					105							

<210> 48
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 48

Asp	Val	Val	Met	Thr	Gln	Thr	Pro	Leu	Ser	Leu	Pro	Val	Ser	Leu	Gly
1				5					10					15	
Asp	Gln	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asn	Gly	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Lys	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Phe	Cys	Ser	Gln	Ser
				85					90					95	
Thr	His	Val	Pro	Trp	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105						110	

<210> 49
 <211> 234
 <212> PRT
 <213> Mus musculus

<400> 49

Met	Arg	Pro	Ser	Ile	Gln	Phe	Leu	Gly	Leu	Leu	Leu	Phe	Trp	Leu	His
1				5					10					15	
Gly	Val	Gln	Cys	Asp	Ile	Gln	Met	Thr	Gln	Ser	Pro	Ser	Ser	Leu	Ser
			20					25					30		
Ala	Ser	Leu	Gly	Gly	Lys	Val	Thr	Ile	Thr	Cys	Lys	Ala	Ser	Gln	Asp
		35					40					45			
Ile	Asn	Lys	Asn	Ile	Val	Trp	Tyr	Gln	His	Lys	Pro	Gly	Lys	Gly	Pro
	50					55					60				
Arg	Leu	Leu	Ile	Trp	Tyr	Thr	Ser	Thr	Leu	Gln	Pro	Gly	Ile	Pro	Ser
65					70					75				80	

Arg Phe Ser Gly Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser
 85 90 95
 Asn Leu Glu Pro Glu Asp Ile Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp
 100 105 110
 Asn Leu Pro Arg Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg
 115 120 125
 Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu Gln
 130 135 140
 Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe Tyr
 145 150 155 160
 Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln Ser
 165 170 175
 Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser Thr
 180 185 190
 Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu Lys
 195 200 205
 His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser Pro
 210 215 220
 Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 225 230

<210> 50
 <211> 107
 <212> PRT
 <213> Mus musculus

<400> 50
 Asp Ile Gln Met Thr Gln Ser Pro Ser Ser Leu Ser Ala Ser Leu Gly
 1 5 10 15
 Gly Lys Val Thr Ile Thr Cys Lys Ala Ser Gln Asp Ile Asn Lys Asn
 20 25 30
 Ile Ile Trp Tyr Gln His Lys Pro Gly Lys Gly Pro Arg Leu Leu Ile
 35 40 45
 Trp Tyr Thr Ser Thr Leu Gln Pro Gly Ile Pro Ser Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Arg Asp Tyr Ser Phe Ser Ile Ser Asn Leu Glu Pro
 65 70 75 80
 Glu Asp Ile Ala Thr Tyr Tyr Cys Leu Gln Tyr Asp Asn Leu Pro Arg
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 51
 <211> 239
 <212> PRT
 <213> Mus musculus

<400> 51
 Met Arg Phe Ser Ala Gln Leu Leu Gly Leu Leu Val Leu Trp Ile Pro
 1 5 10 15
 Gly Ser Thr Ala Asp Ile Val Met Thr Gln Ala Ala Phe Ser Asn Pro
 20 25 30
 Val Thr Leu Gly Thr Ser Thr Ser Ile Ser Cys Arg Ser Ser Lys Ser
 35 40 45
 Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys
 50 55 60
 Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Gln Met Ser Asn Leu Ala

65					70					75					80
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Ser	Ser	Gly	Ser	Gly	Thr	Asp	Phe
				85					90					95	
Thr	Leu	Arg	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr
			100					105					110		
Cys	Ala	Gln	Asn	Leu	Glu	Leu	Pro	Tyr	Thr	Phe	Gly	Ser	Gly	Thr	Lys
		115					120					125			
Leu	Glu	Ile	Lys	Arg	Thr	Val	Ala	Ala	Pro	Ser	Val	Phe	Ile	Phe	Pro
	130					135					140				
Pro	Ser	Asp	Glu	Gln	Leu	Lys	Ser	Gly	Thr	Ala	Ser	Val	Val	Cys	Leu
145					150					155					160
Leu	Asn	Asn	Phe	Tyr	Pro	Arg	Glu	Ala	Lys	Val	Gln	Trp	Lys	Val	Asp
			165					170						175	
Asn	Ala	Leu	Gln	Ser	Gly	Asn	Ser	Gln	Glu	Ser	Val	Thr	Glu	Gln	Asp
		180						185					190		
Ser	Lys	Asp	Ser	Thr	Tyr	Ser	Leu	Ser	Ser	Thr	Leu	Thr	Leu	Ser	Lys
	195						200					205			
Ala	Asp	Tyr	Glu	Lys	His	Lys	Val	Tyr	Ala	Cys	Glu	Val	Thr	His	Gln
	210					215					220				
Gly	Leu	Ser	Ser	Pro	Val	Thr	Lys	Ser	Phe	Asn	Arg	Gly	Glu	Cys	
225					230					235					

<210> 52
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 52															
Asp	Ile	Val	Met	Thr	Gln	Ala	Ala	Phe	Ser	Asn	Pro	Val	Thr	Leu	Gly
1				5				10						15	
Thr	Ser	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Lys	Ser	Leu	Leu	His	Ser
			20					25					30		
Asn	Gly	Ile	Thr	Tyr	Leu	Tyr	Trp	Phe	Leu	Gln	Lys	Pro	Gly	Gln	Ser
	35					40						45			
Pro	Gln	Leu	Leu	Ile	Tyr	Gln	Met	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Ser	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Arg	Ile
65					70					75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ala	Gln	Asn
			85					90					95		
Leu	Glu	Leu	Pro	Tyr	Thr	Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Ile	Lys
		100						105					110		

<210> 53
 <211> 107
 <212> PRT
 <213> Mus musculus

<400> 53															
Asp	Ile	Val	Leu	Thr	Gln	Ser	Pro	Ala	Thr	Leu	Ser	Val	Thr	Pro	Gly
1				5				10						15	
Asp	Arg	Val	Ser	Leu	Ser	Cys	Arg	Ala	Ser	His	Ser	Ile	Ser	Asn	Phe
			20					25					30		
Leu	His	Trp	Tyr	Pro	Gln	Lys	Ser	His	Glu	Ser	Pro	Arg	Leu	Leu	Ile
	35					40						45			
Lys	Tyr	Ala	Ser	Gln	Ser	Ile	Ser	Gly	Ile	Pro	Ser	Arg	Phe	Ser	Gly
	50					55					60				

Asn Gly Ser Gly Thr Asp Phe Thr Leu Ser Ile Asn Ser Val Glu Thr
 65 70 75 80
 Glu Asp Phe Gly Met Tyr Phe Cys Gln Gln Ser Asn Ile Trp Ser Leu
 85 90 95
 Thr Phe Gly Ala Gly Thr Lys Leu Glu Leu Lys
 100 105

<210> 54
 <211> 111
 <212> PRT
 <213> Mus musculus

<400> 54
 Asp Ile Val Leu Thr Gln Ser Pro Thr Ser Leu Ala Val Ser Leu Gly
 1 5 10 15
 Gln Ser Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Glu Tyr Tyr
 20 25 30
 Gly Thr Ser Leu Met Gln Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro
 35 40 45
 Lys Leu Leu Ile Tyr Gly Ala Ser Asn Val Glu Ser Gly Val Pro Ala
 50 55 60
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ser Leu Asn Ile His
 65 70 75 80
 Pro Val Glu Glu Asp Ile Ala Met Tyr Phe Cys Gln Gln Ser Arg
 85 90 95
 Lys Val Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 55
 <211> 333
 <212> DNA
 <213> Mus musculus

<400> 55
 cagatccagt tggagcagtc tggacctgag ctgaagaagc ctggagagac agtcaagatc 60
 tcctgcaagg cttctgggta tattttcaga gactattcaa tgcactgggt gaagcaggct 120
 ccaggaaaagg gtttaaaagt gatgggctgg ataaacactg agacgggtga gccaacatat 180
 gcagatgact tcaagggacg gtttgccctc tctttggaaa cctctgccag cactgcctat 240
 ttgcagatca acaacctcaa aaatgaggac acggctacat atttctgtac tagcctttac 300
 tggggccaag ggactctggt cactgtctct gca 333

<210> 56
 <211> 372
 <212> DNA
 <213> Mus musculus

<400> 56
 caggtcactc tgaaagagtc tggccctggg atattgcagc cctcccagac cctcagtcctg 60
 acttgttctt tctctggggt ttcactgagc acttatggta tgggtgtagg ttggattcgt 120
 cagccttcag ggaagggctc ggagtggctg gccaacattt ggtggcatga tgataagtac 180
 tataactcag cctgaagag ccggctcaca atctccaagg atatctcaa caaccaggta 240
 ttctcaaga tctccagtgt ggacactgca gatactgcca catactactg tgctcaaata 300
 gccctcgat ataataagta cgaaggcttt tttgctttct ggggccaagg gactctggtc 360
 actgtctctg ca 372

<210> 57
 <211> 345

<212> DNA
 <213> Mus musculus

<400> 57
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 tcctgcaagg cttcgggcta cacatttact gactatgaaa tgcactgggt gaagcagaca 120
 cctgtgcatg gcctaaaatg gattggagct cttgatccta aaactgggtga tactgcctac 180
 agtcagaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcctac 240
 atggagctcc gcagcctgac atctgaggac tctgccgtct attactgtac aagattctac 300
 tcctatactt actggggcca agggactctg gtcactgtct ctgca 345

<210> 58
 <211> 357
 <212> DNA
 <213> Mus musculus

<400> 58
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 tcatgtgcag cttctggatt cagcttcaat atcaatgccca tgaactgggt ccgccaggct 120
 ccaggaaaagg gtttggaatg ggttgctcgc ataagaagtg aaagtaataa ttatgcaaca 180
 tattatggcg attcagtgaa agacagggttc accatctcca gagatgattc acaaaacatg 240
 ctctatctac aaatgaacaa cttgaaaact gaggacacag ccatatatta ctgtgtgaga 300
 gaggtaaacta catcgtttgc ttattggggc caagggactc tggtcactgt ctctgca 357

<210> 59
 <211> 369
 <212> DNA
 <213> Mus musculus

<400> 59
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 tcatgtgcag cctctggatt caccttcaat gccagtgccca tgaactgggt ccgccaggct 120
 ccaggaaaagg gtttggaatg ggttgctcgc ataagaagta aaagtaataa ttatgcaata 180
 tattatgccg attcagtgaa agacagggttc accatctcca gagatgattc acaaagcatg 240
 ctctatctgc aaatgaacaa cttgaaaact gaggacacag ccatgtatta ctgtgtgaga 300
 gatccgggct actatggtaa cccctgggtt gcttactggg gccaaaggac tctggtcact 360
 gtctctgca 369

<210> 60
 <211> 111
 <212> PRT
 <213> Mus musculus

<400> 60
 Gln Ile Gln Leu Glu Gln Ser Gly Pro Glu Leu Lys Lys Pro Gly Glu
 1 5 10 15
 Thr Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ile Phe Arg Asp Tyr
 20 25 30
 Ser Met His Trp Val Lys Gln Ala Pro Gly Lys Gly Leu Lys Trp Met
 35 40 45
 Gly Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe
 50 55 60
 Lys Gly Arg Phe Ala Phe Ser Leu Glu Thr Ser Ala Ser Thr Ala Tyr
 65 70 75 80
 Leu Gln Ile Asn Asn Leu Lys Asn Glu Asp Thr Ala Thr Tyr Phe Cys
 85 90 95
 Thr Ser Leu Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala

100 105 110

<210> 61
 <211> 124
 <212> PRT
 <213> Mus musculus

<400> 61
 Gln Val Thr Leu Lys Glu Ser Gly Pro Gly Ile Leu Gln Pro Ser Gln
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Ser Phe Ser Gly Phe Ser Leu Ser Thr Tyr
 20 25 30
 Gly Met Gly Val Gly Trp Ile Arg Gln Pro Ser Gly Lys Gly Leu Glu
 35 40 45
 Trp Leu Ala Asn Ile Trp Trp His Asp Asp Lys Tyr Tyr Asn Ser Ala
 50 55 60
 Leu Lys Ser Arg Leu Thr Ile Ser Lys Asp Ile Ser Asn Asn Gln Val
 65 70 75 80
 Phe Leu Lys Ile Ser Ser Val Asp Thr Ala Asp Thr Ala Thr Tyr Tyr
 85 90 95
 Cys Ala Gln Ile Ala Pro Arg Tyr Asn Lys Tyr Glu Gly Phe Phe Ala
 100 105 110
 Phe Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
 115 120

<210> 62
 <211> 115
 <212> PRT
 <213> Mus musculus

<400> 62
 Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala
 1 5 10 15
 Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30
 Glu Met His Trp Val Lys Gln Thr Pro Val His Gly Leu Lys Trp Ile
 35 40 45
 Gly Ala Leu Asp Pro Lys Thr Gly Asp Thr Ala Tyr Ser Gln Lys Phe
 50 55 60
 Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95
 Thr Arg Phe Tyr Ser Tyr Thr Tyr Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110
 Val Ser Ala
 115

<210> 63
 <211> 119
 <212> PRT
 <213> Mus musculus

<400> 63
 Glu Val Gln Leu Val Glu Thr Gly Gly Gly Leu Val Gln Pro Glu Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Ser Phe Asn Ile Asn

20 25 30
 Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Arg Ile Arg Ser Glu Ser Asn Asn Tyr Ala Thr Tyr Tyr Gly Asp
 50 55 60
 Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Ser Gln Asn Met
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Ile Tyr
 85 90 95
 Tyr Cys Val Arg Glu Val Thr Thr Ser Phe Ala Tyr Trp Gly Gln Gly
 100 105 110
 Thr Leu Val Thr Val Ser Ala
 115
 <210> 64
 <211> 123
 <212> PRT
 <213> Mus musculus

<400> 64
 Glu Val Gln Leu Val Glu Thr Gly Gly Gly Leu Val Gln Pro Lys Gly
 1 5 10 15
 Ser Leu Lys Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Asn Ala Ser
 20 25 30
 Ala Met Asn Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ala Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Ile Tyr Tyr Ala Asp
 50 55 60
 Ser Val Lys Asp Arg Phe Thr Ile Ser Arg Asp Asp Ser Gln Ser Met
 65 70 75 80
 Leu Tyr Leu Gln Met Asn Asn Leu Lys Thr Glu Asp Thr Ala Met Tyr
 85 90 95
 Tyr Cys Val Arg Asp Pro Gly Tyr Tyr Gly Asn Pro Trp Phe Ala Tyr
 100 105 110
 Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
 115 120
 <210> 65
 <211> 336
 <212> DNA
 <213> Mus musculus

<400> 65
 gatgttgtga tgaccagac tccactcact ttgtcggtta cccttgga accagcctcc 60
 atctcttgca agtcaagtca gagcctctta catagtgatg gaaagacatt tttgaattgg 120
 ttattacaga ggccaggcca gtctccaaag cgcctaattc atctgggtgtc tagactggac 180
 tctggagtcc ctgacagggt cactggcagt ggatcaggga cagatttcac actgaaaatc 240
 agcagagtgg aggctgagga tttgggagtt tattattgct gccaaagtac acattttcct 300
 cggacgttcg gtggaggcac caggctggaa atcaaa 336

<210> 66
 <211> 336
 <212> DNA
 <213> Mus musculus

<400> 66
 gatgttttga tgacccaaac tccactctcc ctgcctgtca gtcttgga tcaagcctcc 60
 atctcttgca gatctagtca gagcattgta catagtaatg gaaacaccta tttagaatgg 120

tacctgcaga	aaccaggcca	gtctccaaag	ctcctgatct	acaaagtttc	caaccgattt	180
tctgggggtcc	cagacagggt	cagtggcagt	ggatcaggga	cagatttcac	actcaagatc	240
agcagagtgg	aggctgagga	tctgggagtt	tattactgct	ttcaagggtc	acatgttccg	300
tggacgttcg	gtggaggcac	caagctggaa	atcaaa			336

<210> 67

<211> 336

<212> DNA

<213> Mus musculus

<400> 67

gatgtttgtga	tgacccaaac	tccactctcc	ctgcctgtca	gtcttggaga	tcaagcctcc	60
atctcttgca	gatctagtca	gagccttgta	cacagtaatg	gaaacaccta	tttacattgg	120
tacctgcaga	agccaggcca	gtctccaaag	ctcctgatct	acaaagtttc	caaccgattt	180
tctgggggtcc	cagacagggt	cagtggcagt	ggatcaggga	cagatttcac	actcaagatc	240
agcagagtgg	aggctgagga	tctgggagtt	tatttctgct	ctcaaaatac	acatgttcct	300
cctacgttcg	gatcggggac	caagctggaa	ataaaa			336

<210> 68

<211> 336

<212> DNA

<213> Mus musculus

<400> 68

gatattgtga	tgactcagtc	tgcaccctct	gtacctgtca	ctcctggaga	gtcagtatcc	60
atctcctgca	agtctagtaa	gagtctcctg	catagtaatg	gcaacactta	cttgaattgg	120
ttcctgcaga	ggccaggcca	gtctcctcaa	ctcctgattt	attggatgtc	caaccttgcc	180
tcaggagtcc	cagacagggt	cagtggcagt	gggtcaggaa	ctgctttcac	actgagaatc	240
agtagagtgg	aggctgagga	tgtgggtggt	tattactgta	tgcaacatat	agaataccct	300
ttcacgttcg	gcacggggac	aaaattggaa	ataaaa			336

<210> 69

<211> 336

<212> DNA

<213> Mus musculus

<400> 69

gatattgtga	tgacgcaggc	tgcattctcc	aatccagtca	ctcttggaa	atcagcttcc	60
atctcctgca	ggtctagtaa	gagtctccta	catagttaatg	acatcactta	tttgtattgg	120
tatctgcaga	agccaggcca	gtctcctcag	ctcctgattt	atcagatgtc	caaccttgcc	180
tcaggagtcc	cagacagggt	cagtagcagt	gggtcaggaa	ctgatttcac	actgagaatc	240
agcagagtgg	aggctgagga	tgtgggtggt	tattactgtg	ctcaaaatct	agaacttcct	300
ccgacgttcg	gtggaggcac	caagctggaa	atcaaa			336

<210> 70

<211> 318

<212> DNA

<213> Mus musculus

<400> 70

caaattgttc	tcacccagtc	tccagcaatc	atgtctgcat	ttccagggga	gaaggtcacc	60
atgacctgca	gtgccagctc	aagtgttagt	tacatgtact	ggtaccagca	gaagtcagga	120
tcctccccc	gactcctgat	ttatgacaca	tccaacctgg	cttctggagt	ccctgttcgc	180
ttcagtggca	gtgggtctgg	gacctcttac	tctctcacia	tcagccgaat	ggaggctgaa	240
gatgctgcc	cttattactg	ccagcagtgg	agtagttacc	cgctcacgtt	cgggtggtgg	300
accgagctgg	agctgaaa					318

<210> 71
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 71
 Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Leu Gly
 1 5 10 15
 Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu His Ser
 20 25 30
 Asp Gly Lys Thr Phe Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
 35 40 45
 Pro Lys Arg Leu Ile Tyr Leu Val Ser Arg Leu Asp Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Cys Gln Gly
 85 90 95
 Thr His Phe Pro Arg Thr Phe Gly Gly Gly Thr Arg Leu Glu Ile Lys
 100 105 110

<210> 72
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 72
 Asp Val Leu Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
 1 5 10 15
 Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Ile Val His Ser
 20 25 30
 Asn Gly Asn Thr Tyr Leu Glu Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Phe Gln Gly
 85 90 95
 Ser His Val Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 73
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 73
 Asp Val Val Met Thr Gln Thr Pro Leu Ser Leu Pro Val Ser Leu Gly
 1 5 10 15
 Asp Gln Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30
 Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Lys Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65					70					75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Leu	Gly	Val	Tyr	Phe	Cys	Ser	Gln	Asn
				85					90					95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Ser	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 74
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 74

Asp	Ile	Val	Met	Thr	Gln	Ser	Ala	Pro	Ser	Val	Pro	Val	Thr	Pro	Gly
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Glu	Ser	Val	Ser	Ile	Ser	Cys	Lys	Ser	Ser	Lys	Ser	Leu	Leu	His	Ser
			20					25				30			
Asn	Gly	Asn	Thr	Tyr	Leu	Asn	Trp	Phe	Leu	Gln	Arg	Pro	Gly	Gln	Ser
		35				40					45				
Pro	Gln	Leu	Leu	Ile	Tyr	Trp	Met	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro
	50				55					60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Ala	Phe	Thr	Leu	Arg	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Met	Gln	His
			85					90					95		
Ile	Glu	Tyr	Pro	Phe	Thr	Phe	Gly	Thr	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100				105						110		

<210> 75
 <211> 112
 <212> PRT
 <213> Mus musculus

<400> 75

Asp	Ile	Val	Met	Thr	Gln	Ala	Ala	Phe	Ser	Asn	Pro	Val	Thr	Leu	Gly
1				5					10					15	
Thr	Ser	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Lys	Ser	Leu	Leu	His	Ser
		20						25				30			
Tyr	Asp	Ile	Thr	Tyr	Leu	Tyr	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35				40					45				
Pro	Gln	Leu	Leu	Ile	Tyr	Gln	Met	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro
	50				55					60					
Asp	Arg	Phe	Ser	Ser	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Arg	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ala	Gln	Asn
			85					90					95		
Leu	Glu	Leu	Pro	Pro	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100				105						110		

<210> 76
 <211> 106
 <212> PRT
 <213> Mus musculus

<400> 76

Gln	Ile	Val	Leu	Thr	Gln	Ser	Pro	Ala	Ile	Met	Ser	Ala	Phe	Pro	Gly
1				5					10					15	
Glu	Lys	Val	Thr	Met	Thr	Cys	Ser	Ala	Ser	Ser	Ser	Val	Ser	Tyr	Met

			20					25					30				
Tyr	Trp	Tyr	Gln	Gln	Lys	Ser	Gly	Ser	Ser	Pro	Arg	Leu	Leu	Ile	Tyr		
		35					40					45					
Asp	Thr	Ser	Asn	Leu	Ala	Ser	Gly	Val	Pro	Val	Arg	Phe	Ser	Gly	Ser		
	50					55					60						
Gly	Ser	Gly	Thr	Ser	Tyr	Ser	Leu	Thr	Ile	Ser	Arg	Met	Glu	Ala	Glu		
65					70					75					80		
Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	Gln	Trp	Ser	Ser	Tyr	Pro	Leu	Thr		
				85					90					95			
Phe	Gly	Gly	Gly	Thr	Glu	Leu	Glu	Leu	Lys								
			100					105									

<210> 77
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Mouse-human chimeric antibody H chain
 <400> 77

caggtgcagc	tggtggagtc	tggagctgag	gtgaagaagc	ctggggcctc	agtgaaggtc	60
tcctgcaagg	cttctggata	caccttcacc	gactatgaaa	tgactgggt	gcgacaggcc	120
cctggacaag	ggcttgagt	gatgggagct	cttgatccta	aaactgggtga	tactgcctac	180
agtcagaagt	tcaagggcag	agtcacgatt	accgcggacg	aatccacgag	cacagcctac	240
atggagctga	gcagcctgag	atctgaggac	acggccgtgt	attactgtgc	gagattctac	300
tcctatactt	actggggcca	gggaaccctg	gtcaccgtct	cctca		345

<210> 78
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Mouse-human chimeric antibody H chain

<400> 78	
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tcctgcaagg	cttctggata caccttcacc gactatgaaa tgactgggt gcgacaggcc 120
cctggacaag	ggcttgagt gatgggagct cttgatccta aaactgggtga tactgcctac 180
agtcagaagt	tcaagggcag agtcacgctg accgcggacg aatccacgag cacagcctac 240
atggagctga	gcagcctgag atctgaggac acggccgtgt attactgtac aagattctac 300
tcctatactt	actggggcca gggaaccctg gtcaccgtct cctca 345

<210> 79
 <211> 345
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Mouse-human chimeric antibody H chain

<400> 79	
caggtgcagc	tggtggagtc tggagctgag gtgaagaagc ctggggcctc agtgaaggtc 60
tcctgcaagg	cttctggata caccttcacc gactatgaaa tgactgggt gcgacaggcc 120
cctggacaag	ggcttgagt gatgggagct cttgatccta aaactgggtga tactgcctac 180
agtcagaagt	tcaagggcag agtcacgctg accgcggaca aatccacgag cacagcctac 240
atggagctga	gcagcctgag atctgaggac acggccgtgt attactgtac aagattctac 300

tcctatactt actggggcca gggaaccctg gtcaccgtct cctca 345

<210> 80

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody H chain

<400> 80

caggtgcagc	tgggtgcagtc	tggagctgag	gtgaagaagc	ctggggcctc	agtgaaggtc	60
tcctgcaagg	cttctggata	caccttcacc	gactatgaaa	tgactgggt	gcgacaggcc	120
cctggacaag	ggcttgagt	gatgggagct	cttgatccta	aaactgggtga	tactgcctac	180
agtcagaagt	tcaagggcag	agtcacgctg	accgcggaca	aatccacgag	cacagcctac	240
atggagctga	gcagcctgac	atctgaggac	acggccgtgt	attactgtac	aagattctac	300
tcctatactt	actggggcca	gggaaccctg	gtcaccgtct	cctca		345

<210> 81

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody H chain

<400> 81

caggtgcagc	tgggtgcagtc	tggagctgag	gtgaagaagc	ctggggcctc	agtgaaggtc	60
tcctgcaagg	cttctggata	caccttcacc	gactatgaaa	tgactgggt	gcgacaggcc	120
cctggacaag	ggcttgagt	gatgggagct	cttgatccta	aaactgggtga	tactgcctac	180
agtcagaagt	tcaagggcag	agtcacgctg	accgcggacg	aatccacgag	cacagcctac	240
atggagctga	gcagcctgag	atctgaggac	acggccgtgt	attactgtac	aagattctac	300
tcctatactt	actggggcca	gggaaccctg	gtcaccgtct	cctca		345

<210> 82

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody H chain

<400> 82

caggtgcagc	tgggtgcagtc	tggagctgag	gtgaagaagc	ctggggcctc	agtgaaggtc	60
tcctgcaagg	cttctggata	caccttcacc	gactatgaaa	tgactgggt	gcgacaggcc	120
cctggacaag	ggcttgagt	gatgggagct	cttgatccta	aaactgggtga	tactgcctac	180
agtcagaagt	tcaagggcag	agtcacgctg	accgcggaca	aatccacgag	cacagcctac	240
atggagctga	gcagcctgag	atctgaggac	acggccgtgt	attactgtac	aagattctac	300
tcctatactt	actggggcca	gggaaccctg	gtcaccgtct	cctca		345

<210> 83

<211> 345

<212> DNA

<213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody H chain


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<400> 83
caggtgcagc tgggtgcagtc tggagctgag gtgaagaagc ctggggcctc agtgaaggtc      60
tcctgcaagg cttctggata caccttcacc gactatgaaa tgcactgggt gcgacaggcc      120
cctggacaag ggcttgagtg gatgggagct cttgataccta aaactgggtga tactgcctac      180
agtcagaagt tcaagggcag agtcacgctg accgcggaca aatccacgag cacagcctac      240
atggagctga gcagcctgac atctgaggac acggccgtgt attactgtac aagattctac      300
tcctatactt actggggcca gggaaccctg gtcaccgtct cctca                        345

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<210> 84
<211> 115
<212> PRT
<213> Artificial Sequence
<220>
<223> Mouse-human chimeric antibody H chain

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<400> 84
Gln Val Gln Leu Val Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1          5          10          15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20          25          30
Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35          40          45
Gly Ala Leu Asp Pro Lys Thr Gly Asp Thr Ala Tyr Ser Gln Lys Phe
50          55          60
Lys Gly Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65          70          75          80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85          90          95
Ala Arg Phe Tyr Ser Tyr Thr Tyr Trp Gly Gln Gly Thr Leu Val Thr
100          105          110

Val Ser Ser
115

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<210> 85
<211> 115
<212> PRT
<213> Artificial Sequence

<220>
<223> Mouse-human chimeric antibody H chain

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<400> 85
Gln Val Gln Leu Val Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1          5          10          15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20          25          30
Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35          40          45
Gly Ala Leu Asp Pro Lys Thr Gly Asp Thr Ala Tyr Ser Gln Lys Phe
50          55          60
Lys Gly Arg Val Thr Leu Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
65          70          75          80
Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85          90          95
Thr Arg Phe Tyr Ser Tyr Thr Tyr Trp Gly Gln Gly Thr Leu Val Thr

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100 105 110
 Val Ser Ser
 115
 <210> 86
 <211> 115
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Mouse-human chimeric antibody H chain

 <400> 86
 Gln Val Gln Leu Val Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30
 Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Ala Leu Asp Pro Lys Thr Gly Asp Thr Ala Tyr Ser Gln Lys Phe
 50 55 60
 Lys Gly Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Thr Arg Phe Tyr Ser Tyr Thr Tyr Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110
 Val Ser Ser
 115

 <210> 87
 <211> 115
 <212> PRT
 <213> Artificial Sequence

 <220>
 <223> Mouse-human chimeric antibody H chain

 <400> 87
 Gln Val Gln Leu Val Glu Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1 5 10 15
 Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
 20 25 30
 Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
 35 40 45
 Gly Ala Leu Asp Pro Lys Thr Gly Asp Thr Ala Tyr Ser Gln Lys Phe
 50 55 60
 Lys Gly Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
 65 70 75 80
 Met Glu Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Thr Arg Phe Tyr Ser Tyr Thr Tyr Trp Gly Gln Gly Thr Leu Val Thr
 100 105 110
 Val Ser Ser
 115

 <210> 88

<211> 115
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody H chain

<400> 88

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala
1				5					10					15	
Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Asp	Tyr
			20				25						30		
Glu	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Met
		35					40					45			
Gly	Ala	Leu	Asp	Pro	Lys	Thr	Gly	Asp	Thr	Ala	Tyr	Ser	Gln	Lys	Phe
	50					55				60					
Lys	Gly	Arg	Val	Thr	Leu	Thr	Ala	Asp	Glu	Ser	Thr	Ser	Thr	Ala	Tyr
65					70				75					80	
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Thr	Arg	Phe	Tyr	Ser	Tyr	Thr	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr
			100					105					110		
Val	Ser	Ser													
			115												

<210> 89
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody H chain

<400> 89

Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	Pro	Gly	Ala
1				5					10					15	
Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	Thr	Asp	Tyr
			20				25						30		
Glu	Met	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	Glu	Trp	Met
		35					40					45			
Gly	Ala	Leu	Asp	Pro	Lys	Thr	Gly	Asp	Thr	Ala	Tyr	Ser	Gln	Lys	Phe
	50					55				60					
Lys	Gly	Arg	Val	Thr	Leu	Thr	Ala	Asp	Lys	Ser	Thr	Ser	Thr	Ala	Tyr
65					70				75					80	
Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Glu	Asp	Thr	Ala	Val	Tyr	Tyr	Cys
				85					90					95	
Thr	Arg	Phe	Tyr	Ser	Tyr	Thr	Tyr	Trp	Gly	Gln	Gly	Thr	Leu	Val	Thr
			100					105					110		
Val	Ser	Ser													
			115												

<210> 90
 <211> 115
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody H chain

<400> 90

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Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1          5          10          15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr
20          25          30
Glu Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met
35          40          45
Gly Ala Leu Asp Pro Lys Thr Gly Asp Thr Ala Tyr Ser Gln Lys Phe
50          55          60
Lys Gly Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr
65          70          75          80
Met Glu Leu Ser Ser Leu Thr Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85          90          95
Thr Arg Phe Tyr Ser Tyr Thr Tyr Trp Gly Gln Gly Thr Leu Val Thr
100          105          110
Val Ser Ser
115

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<210> 91

<211> 336

<212> DNA

<213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody L chain

<400> 91

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gatgttgatga tgactcagtc tccactctcc ctgcccgtca cccctggaga gccggcctcc      60
atctcctgca gatctagtca ggccttgta cacagtaatg gaaacaccta ttacattgg      120
tacctgcaga agccaggga gtctccacag ctctgatct ataaagtttc caaccgattt      180
tctgggggtcc ctgacagggt cagtggcagt ggatcaggca cagattttac actgaaaatc      240
agcagagtgg aggctgagga tgttgggggt tattactgct ctcaaatac acatgttcct      300
cctacgtttg gccaggggac caagctggag atcaaa      336

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<210> 92

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Mouse-human chimeric antibody L chain

<400> 92

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Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1          5          10          15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
20          25          30
Asn Gly Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35          40          45
Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
50          55          60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Asn
85          90          95

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Thr His Val Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 93
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 93
 Gly Asn Ser Gln Gln Ala Thr Pro Lys Asp Asn Glu Ile Ser
 1 5 10

<210> 94
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 94
 Gly Asn Ser Gln Gln Ala Thr Pro
 1 5

<210> 95
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 95
 Gln Gln Ala Thr Pro Lys Asp Asn
 1 5

<210> 96
 <211> 8
 <212> PRT
 <213> Homo sapiens

<400> 96
 Thr Pro Lys Asp Asn Glu Ile Ser
 1 5

<210> 97
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 97
 Ala Thr Pro Lys Asp Asn Glu Ile Ser Thr
 1 5 10

<210> 98
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 98
 Pro Lys Asp Asn Glu Ile Ser Thr Phe His
 1 5 10

<210> 99
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 99
 Asp Asn Glu Ile Ser Thr Phe His Asn Leu
 1 5 10

<210> 100
 <211> 10
 <212> PRT
 <213> Homo sapiens

<400> 100
 Glu Ile Ser Thr Phe His Asn Leu Gly Asn
 1 5 10

<210> 101
 <211> 27
 <212> PRT
 <213> Homo sapiens

<400> 101
 Gly Asn Ser Gln Gln Ala Thr Pro Lys Asp Asn Glu Ile Ser Thr Phe
 1 5 10 15
 His Asn Leu Gly Asn Val His Ser Pro Leu Lys
 20 25

<210> 102
 <211> 14
 <212> PRT
 <213> Homo sapiens

<400> 102
 Ser Thr Phe His Asn Leu Gly Asn Val His Ser Pro Leu Lys
 1 5 10

<210> 103
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 103
 Asn Tyr Ala Met Ser
 1 5

<210> 104
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 104
 Ala Ile Asn Asn Asn Gly Asp Asp Thr Tyr Tyr Leu Asp Thr Val Lys
 1 5 10 15
 Asp

<210> 105
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 105
 Gln Gly Gly Ala Tyr
 1 5

<210> 106
 <211> 7
 <212> PRT
 <213> Mus musculus

<400> 106
 Thr Tyr Gly Met Gly Val Gly
 1 5

<210> 107
 <211> 16
 <212> PRT
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<400> 107
 Asn Ile Trp Trp Tyr Asp Ala Lys Tyr Tyr Asn Ser Asp Leu Lys Ser
 1 5 10 15

<210> 108
 <211> 8
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 <213> Mus musculus

<400> 108
 Met Gly Leu Ala Trp Phe Ala Tyr
 1 5

<210> 109
 <211> 7
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<400> 109
 Ile Tyr Gly Met Gly Val Gly
 1 5

<210> 110
 <211> 16
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 <213> Mus musculus

<400> 110
 Asn Ile Trp Trp Asn Asp Asp Lys Tyr Tyr Asn Ser Ala Leu Lys Ser
 1 5 10 15

<210> 111
 <211> 8
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<213> Mus musculus

<400> 111

Ile Gly Tyr Phe Tyr Phe Asp Tyr
1 5

<210> 112

<211> 5

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<213> Mus musculus

<400> 112

Gly Tyr Trp Met His
1 5

<210> 113

<211> 17

<212> PRT

<213> Mus musculus

<400> 113

Ala Ile Tyr Pro Gly Asn Ser Asp Thr Asn Tyr Asn Gln Lys Phe Lys
1 5 10 15
Gly

<210> 114

<211> 10

<212> PRT

<213> Mus musculus

<400> 114

Ser Gly Asp Leu Thr Gly Gly Leu Ala Tyr
1 5 10

<210> 115

<211> 5

<212> PRT

<213> Mus musculus

<400> 115

Ser Tyr Ala Met Ser
1 5

<210> 116

<211> 17

<212> PRT

<213> Mus musculus

<400> 116

Ala Ile Asn Ser Asn Gly Gly Thr Thr Tyr Tyr Pro Asp Thr Met Lys
1 5 10 15
Asp

<210> 117

<211> 13

<212> PRT
 <213> Mus musculus

<400> 117
 His Asn Gly Gly Tyr Glu Asn Tyr Gly Trp Phe Ala Tyr
 1 5 10

<210> 118
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 118
 Ser Tyr Trp Met His
 1 5

<210> 119
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 119
 Glu Ile Asp Pro Ser Asp Ser Tyr Thr Tyr Tyr Asn Gln Lys Phe Arg
 1 5 10 15
 Gly

<210> 120
 <211> 15
 <212> PRT
 <213> Mus musculus

<400> 120
 Ser Asn Leu Gly Asp Gly His Tyr Arg Phe Pro Ala Phe Pro Tyr
 1 5 10 15

<210> 121
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 121
 Thr Ile Asp Pro Ser Asp Ser Glu Thr His Tyr Asn Leu Gln Phe Lys
 1 5 10 15
 Asp

<210> 122
 <211> 15
 <212> PRT
 <213> Mus musculus

<400> 122
 Gly Ala Phe Tyr Ser Ser Tyr Ser Tyr Trp Ala Trp Phe Ala Tyr
 1 5 10 15

<210> 123

<211> 5
 <212> PRT
 <213> Mus musculus

<400> 123
 Asp Tyr Glu Met His
 1 5

<210> 124
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 124
 Ala Leu Asp Pro Lys Thr Gly Asp Thr Ala Tyr Ser Gln Lys Phe Lys
 1 5 10 15
 Gly

<210> 125
 <211> 6
 <212> PRT
 <213> Mus musculus

<400> 125
 Phe Tyr Ser Tyr Thr Tyr
 1 5

<210> 126
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 126
 Ile Asn Ala Met Asn
 1 5

<210> 127
 <211> 19
 <212> PRT
 <213> Mus musculus

<400> 127
 Arg Ile Arg Ser Glu Ser Asn Asn Tyr Ala Thr Tyr Tyr Gly Asp Ser
 1 5 10 15
 Val Lys Asp

<210> 128
 <211> 8
 <212> PRT
 <213> Mus musculus

<400> 128
 Glu Val Thr Thr Ser Phe Ala Tyr
 1 5

<210> 129
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 129
 Ala Ser Ala Met Asn
 1 5

<210> 130
 <211> 19
 <212> PRT
 <213> Mus musculus

<400> 130
 Arg Ile Arg Ser Lys Ser Asn Asn Tyr Ala Ile Tyr Tyr Ala Asp Ser
 1 5 10 15
 Val Lys Asp

<210> 131
 <211> 12
 <212> PRT
 <213> Mus musculus

<400> 131
 Asp Pro Gly Tyr Tyr Gly Asn Pro Trp Phe Ala Tyr
 1 5 10

<210> 132
 <211> 5
 <212> PRT
 <213> Mus musculus

<400> 132
 Asp Tyr Ser Met His
 1 5

<210> 133
 <211> 17
 <212> PRT
 <213> Mus musculus

<400> 133
 Trp Ile Asn Thr Glu Thr Gly Glu Pro Thr Tyr Ala Asp Asp Phe Lys
 1 5 10 15
 Gly

<210> 134
 <211> 2
 <212> PRT
 <213> Mus musculus
 <400> 134
 Leu Tyr
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<210> 135
 <211> 16
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<400> 135
 Asn Ile Trp Trp His Asp Asp Lys Tyr Tyr Asn Ser Ala Leu Lys Ser
 1 5 10 15

<210> 136
 <211> 14
 <212> PRT
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<400> 136
 Ile Ala Pro Arg Tyr Asn Lys Tyr Glu Gly Phe Phe Ala Phe
 1 5 10

<210> 137
 <211> 16
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<400> 137
 Lys Ser Ser Gln Ser Leu Leu Asp Ser Asp Gly Lys Thr Tyr Leu Asn
 1 5 10 15

<210> 138
 <211> 7
 <212> PRT
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<400> 138
 Leu Val Ser Lys Leu Asp Ser
 1 5

<210> 139
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<400> 139
 Trp Gln Gly Thr His Phe Pro Leu Thr
 1 5

<210> 140
 <211> 11
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<400> 140
 Lys Ala Ser Gln Asp Ile Asn Asn Tyr Leu Ser
 1 5 10

<210> 141
 <211> 7
 <212> PRT

<213> Mus musculus

<400> 141

Arg Ala Asn Arg Leu Val Asp
1 5

<210> 142

<211> 10

<212> PRT

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<400> 142

Leu Gln Cys Asp Glu Phe Pro Pro Trp Thr
1 5 10

<210> 143

<211> 16

<212> PRT

<213> Mus musculus

<400> 143

Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Asn Thr Tyr Leu His
1 5 10 15

<210> 144

<211> 7

<212> PRT

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<400> 144

Lys Val Ser Asn Arg Phe Ser
1 5

<210> 145

<211> 9

<212> PRT

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<400> 145

Ser Gln Ser Thr His Val Pro Trp Thr
1 5

<210> 146

<211> 16

<212> PRT

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<400> 146

Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Ile Thr Tyr Leu Tyr
1 5 10 15

<210> 147

<211> 7

<212> PRT

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<400> 147

Gln Met Ser Asn Leu Ala Ser
1 5

<210> 148
<211> 9
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Ala Gln Asn Leu Glu Leu Pro Tyr Thr
1 5

<210> 149
<211> 11
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<400> 149
Lys Ala Ser Gln Asp Ile Asn Lys Asn Ile Ile
1 5 10

<210> 150
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Tyr Thr Ser Thr Leu Gln Pro
1 5

<210> 151
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Leu Gln Tyr Asp Asn Leu
1 5

<210> 152
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<400> 152
Arg Ala Ser His Ser Ile Ser Asn Phe Leu His
1 5 10

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<211> 7
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<400> 153
Tyr Ala Ser Gln Ser Ile Ser
1 5

<210> 154
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 <212> PRT
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<400> 154
 Gln Gln Ser Asn Ile Trp Ser Leu Thr
 1 5

<210> 155
 <211> 15
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<400> 155
 Arg Ala Ser Glu Ser Val Glu Tyr Tyr Gly Thr Ser Leu Met Gln
 1 5 10 15

<210> 156
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<400> 156
 Gly Ala Ser Asn Val Glu Ser
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<210> 157
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<400> 157
 Gln Gln Ser Arg Lys Val Pro Tyr Thr
 1 5

<210> 158
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<400> 158
 Ser Gln Asn Thr His Val Pro Pro Thr
 1 5

<210> 159
 <211> 16
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<400> 159
 Lys Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Asn
 1 5 10 15

<210> 160
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<400> 160

Trp Met Ser Asn Leu Ala Ser
1 5

<210> 161

<211> 9

<212> PRT

<213> Mus musculus

<400> 161

Met Gln His Ile Glu Tyr Pro Phe Thr
1 5

<210> 162

<211> 16

<212> PRT

<213> Mus musculus

<400> 162

Arg Ser Ser Lys Ser Leu Leu His Ser Tyr Asp Ile Thr Tyr Leu Tyr
1 5 10 15

<210> 163

<211> 9

<212> PRT

<213> Mus musculus

<400> 163

Ala Gln Asn Leu Glu Leu Pro Pro Thr
1 5

<210> 164

<211> 10

<212> PRT

<213> Mus musculus

<400> 164

Ser Ala Ser Ser Ser Val Ser Tyr Met Tyr
1 5 10

<210> 165

<211> 7

<212> PRT

<213> Mus musculus

<400> 165

Asp Thr Ser Asn Leu Ala Ser
1 5

<210> 166

<211> 9

<212> PRT

<213> Mus musculus

<400> 166

Gln Gln Trp Ser Ser Tyr Pro Leu Thr

1 5

<210> 167
 <211> 16
 <212> PRT
 <213> Mus musculus

<400> 167
 Lys Ser Ser Gln Ser Leu Leu His Ser Asp Gly Lys Thr Phe Leu Asn
 1 5 10 15

<210> 168
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 <213> Mus musculus

<400> 168
 Leu Val Ser Arg Leu Asp Ser
 1 5

<210> 169
 <211> 6
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<400> 169
 Cys Gln Gly Thr His Phe
 1 5

<210> 170
 <211> 16
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<400> 170
 Arg Ser Ser Gln Ser Ile Val His Ser Asn Gly Asn Thr Tyr Leu Glu
 1 5 10 15

<210> 171
 <211> 9
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 <213> Mus musculus

<400> 171
 Phe Gln Gly Ser His Val Pro Trp Thr
 1 5

<210> 172
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer
 <400> 172
 cttgtacaca gtgacggaaa cacctat

<210> 173
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 173
 ataggtgttt ccgtcactgt gtacaag

27

<210> 174
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 174
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Ala Asn Thr Tyr Leu His
 1 5 10 15

<210> 175
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 175
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Asp Asn Thr Tyr Leu His
 1 5 10 15

<210> 176
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 176
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Glu Asn Thr Tyr Leu His
 1 5 10 15

<210> 177
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 177
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Phe Asn Thr Tyr Leu His

1	5	10	15
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<210> 178
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 178
 Arg Ser Ser Gln Ser Leu Val His Ser Asn His Asn Thr Tyr Leu His
 1 5 10 15

<210> 179
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 179
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Asn Asn Thr Tyr Leu His
 1 5 10 15

<210> 180
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 180
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Thr Asn Thr Tyr Leu His
 1 5 10 15

<210> 181
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 181
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Gln Asn Thr Tyr Leu His
 1 5 10 15

<210> 182
 <211> 17
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 182

Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Ile Asn Thr Tyr Leu
 1 5 10 15
 His

<210> 183

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 183

Arg Ser Ser Gln Ser Leu Val His Ser Asn Lys Asn Thr Tyr Leu His
 1 5 10 15

<210> 184

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 184

Arg Ser Ser Gln Ser Leu Val His Ser Asn Leu Asn Thr Tyr Leu His
 1 5 10 15

<210> 185

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 185

Arg Ser Ser Gln Ser Leu Val His Ser Asn Ser Asn Thr Tyr Leu His
 1 5 10 15

<210> 186

<211> 16

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 186

Arg Ser Ser Gln Ser Leu Val His Ser Asn Trp Asn Thr Tyr Leu His
 1 5 10 15

<210> 187

<211> 16

<212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 187
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Tyr Asn Thr Tyr Leu His
 1 5 10 15

<210> 188
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 188
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Arg Asn Thr Tyr Leu His
 1 5 10 15

<210> 189
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 189
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Val Asn Thr Tyr Leu His
 1 5 10 15

<210> 190
 <211> 16
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 190
 Arg Ser Ser Gln Ser Leu Val His Ser Asn Pro Asn Thr Tyr Leu His
 1 5 10 15

<210> 191
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 191
 Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15

Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asn	Ala	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
				85					90					95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 192
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1				5				10						15	
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asn	Asp	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
				85					90					95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 193
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1				5				10						15	
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asn	Glu	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65					70					75					80
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn

				85					90					95			
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys		
			100					105					110				

<210> 194
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 194																	
Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly		
1				5				10						15			
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser		
			20					25					30				
Asn	Phe	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser		
		35					40					45					
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro		
	50					55					60						
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile		
65				70					75					80			
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn		
				85					90					95			
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys		
			100					105					110				

<210> 195
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 195																	
Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly		
1				5				10						15			
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser		
			20					25					30				
Asn	His	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser		
		35					40					45					
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro		
	50					55					60						
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile		
65				70					75					80			
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn		
				85					90					95			
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys		
			100					105					110				

<210> 196
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 196

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1				5				10					15		
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asn	Asn	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
				85				90					95		
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 197

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 197

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1				5				10					15		
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		
Asn	Thr	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
				85				90					95		
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 198

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 198

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1				5				10					15		
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
			20					25					30		

Asn	Gln	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40					45			
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70						75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
			85					90						95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
		100						105					110		

<210> 199
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1			5					10					15		
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
		20						25				30			
Asn	Ile	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40				45				
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70						75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
			85					90						95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
		100						105					110		

<210> 200
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1			5					10					15		
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
		20						25				30			
Asn	Lys	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40				45				
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55					60				
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70						75				80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
			85					90						95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys

100 105 110

<210> 201
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 201
 Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15
 Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30
 Asn Leu Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Asn
 85 90 95
 Thr His Val Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 202
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 202
 Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15
 Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
 20 25 30
 Asn Ser Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45
 Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
 50 55 60
 Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Asn
 85 90 95
 Thr His Val Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 203
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

<400> 203

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Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1          5          10          15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
          20          25          30
Asn Trp Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
          35          40          45
Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
          50          55          60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Asn
          85          90          95
Thr His Val Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
          100          105          110

```

<210> 204

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 204

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Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1          5          10          15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
          20          25          30
Asn Tyr Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
          35          40          45
Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
          50          55          60
Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65          70          75          80
Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Ser Gln Asn
          85          90          95
Thr His Val Pro Pro Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
          100          105          110

```

<210> 205

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> mutant antibody L chain

<400> 205

```

Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1          5          10          15
Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser
          20          25          30
Asn Arg Asn Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser
          35          40          45
Pro Gln Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro
          50          55          60

```

Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
			85					90						95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 206
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1			5					10						15	
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
		20					25					30			
Asn	Val	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40				45				
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55				60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
			85					90						95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		

<210> 207
 <211> 112
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> mutant antibody L chain

Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly
1			5					10						15	
Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser
		20					25					30			
Asn	Pro	Asn	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser
		35					40				45				
Pro	Gln	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro
	50					55				60					
Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile
65				70					75					80	
Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	Cys	Ser	Gln	Asn
			85					90						95	
Thr	His	Val	Pro	Pro	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys
			100					105					110		